Further increase in the number of patients included in the study will allow to make conclusions about the prospect of typing the studied polymorphic variant of the gene CXCL10 as a predictive marker of the risk of mycosis development with a strong significance.

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DEVELOPMENT OF A PANEL OF MONOCLONAL ANTIBODIES FOR STUDYING OF LOCAL PRODUCTION OF CYTOKINES IN CHRONIC RHINOSINUSITIS

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Cytokines as key regulators of inflammation play a central role in the pathophysiology of chronic rhinosinusitis (CRS). CRSs are divided into CRS with and without polyps of the nasal mucosa, but this difference is not sufficient for a clear definition of subgroups with the same pathophysiology and production of cytokines. This area remains open for more detailed studies. The purpose of our work was the development of a panel of monoclonal antibodies for studying the characteristics of local production of cytokines in CRS. For studies, monoclonal antibodies to human cytokines were obtained using hybridoma technologies. One or more clones producing antibodies to cytokines (IL-1β, IL-4, IL-6, IL-8, IL-17, TNFα, GM-CSF, IFNα, IFNγ) were obtained. Specificity of antibodies was proved in ELISA: direct and sandwich method. To create a panel, the antibodies were tested by indirect immunohistochemistry using the avidin-biotin-alkaline phosphatase system. Isolated peripheral blood mononuclear cells from three donors were stimulated LPS 500 μg/ml or PHA 20 μg/ml overnight at +37°C at 5% CO2. The cell smears on the glasses were fixed with 4% PF. The antibodies studied were used as the first antibodies, dilutions were selected that produce antibodies to cytokines (IL-1β, IL-4, IL-6, IL-8, IL-17, TNFα, GM-CSF, IFNα, IFNγ) in ELISA: direct and sandwich method. As a result, clones were selected that produce antibodies that best detect cytokines in human cells. After induction LPS, IL-1β was detected in 41.0±19.3% of lymphocytes (intensity 2 points) and 90.7±1.3% of monocytes (3 points); IL-6 in 4.0±1.5% of lymphocytes (2 points) and 78.7±8.4% of monocytes (2–3 points); IL-8 in 10.0±2.4% of lymphocytes (2–3 points) and 48.0±10.6% monocytes (1–2 points); TNFα was rarely detected in lymphocytes, in 46.7±18.9% of monocytes (1–3 points); IFNα was detected mainly in monocytes (77.7±10.0%, 2–3 points); The weak but distinct GM-CSF production was determined in 56.7±18.6% monocytes (1–2 points). After PHA induction IL-4 was detected in 6.0±2.5% of lymphocytes (1–2 points), 47.3±2.0 monocytes (1–2 points); IL-17 was determined in 38.67±15.4% monocytes (1–2 points); IFNγ was in 16.7±11.6% of lymphocytes (1 point) and 32.3±6.38% of monocytes (1–2 points). Thus, it was shown that the obtained antibodies reliably detect the corresponding cytokines in human cells. This panel of antibodies will be used by us to assess the specific features of local production of cytokines in CRS, as well as a number of other inflammatory processes.